

AMENDMENTS TO THE CLAIMS

1-34. (Canceled)

35. (Currently Amended) A method of depositing solder material, said method comprising the steps of:

introducing a first solder component into at least a first solder conduit of a print head, wherein said first solder conduit has first and second openings;

providing a gas source; and

pressurizing [[a]] gas from said source in a chamber of said print head which is in fluid communication with at least said first opening, wherein said first solder component introduced in said first solder conduit is not introduced into said chamber, said pressurized gas flowing to said first solder conduit and causing said first solder component to be ejected from said second opening, thereby depositing a said first solder component on a connection site on a receiving element.

36. (Previously Presented) The method of claim 35, further comprising moving said print head relative to said receiving element and depositing said first solder component at a plurality of connection sites on said receiving element.

37. (Previously Presented) The method of claim 35, wherein said deposition further comprises:

moving said print head relative to said receiving element; and
depositing a second solder component on said connection site on said receiving element from a second solder conduit of said print head, wherein the first and second solder components mix at said connection site on said receiving element to form a solder material.

38. (Previously Presented) The method of claim 35, wherein said solder component is a solder material.

39. (Previously Presented) The method of claim 35, wherein said deposition further comprises:

moving at least a second print head relative to said receiving element; and
depositing a second solder component on said connection site on said receiving element from at least one solder conduit of said second print head, wherein the first and second solder components on said connection site mix to form a solder material.

40. (Previously Presented) The method of claim 35, wherein said connection site is a bond pad and said method further comprising pre-cleaning the bond pad prior to depositing said first solder component.

41. (Previously Presented) The method of claim 40, further comprising depositing an adhesive metal between said pre-cleaning and said depositing of the first solder component.

42. (Previously Presented) The method of claim 41, further comprising adding a passivation material onto the deposited first solder component.

43. (Previously Presented) The method of claim 35, wherein said deposition comprises depositing the first solder component multiple times at a single location.

44. (Previously Presented) The method of claim 36, wherein a pitch between two adjacent ones of said plurality of connection sites on which said first solder component is deposited is less than about 100 microns.

45. (Previously Presented) The method of claim 44, wherein a pitch between two adjacent ones of said plurality of connection sites on which said first solder component is deposited is less than about 25 microns.

46. (Previously Presented) The method of claim 35, wherein said first solder component has a diameter of about 10 microns or less as deposited on said connection site on said receiving element.

47. (Previously Presented) The method of claim 35, wherein said introducing and pressurizing steps are repeated on said receiving element such that a diameter of

said solder component is greater than 10 microns as deposited on said connection site on said receiving element.

48. (Previously Presented) The method of claim 38, wherein said introducing and pressurizing steps are repeated on said receiving element such that a diameter of said solder material is greater than 10 microns as deposited on said connection site on said receiving element.

49. (Currently Amended) A method of depositing solder material, said method comprising the steps of:

introducing a solder material into a solder conduit of a print head, wherein said conduit has at least first and second openings;

providing a gas source; and

pressurizing [[a]] gas from said source in a chamber of said print head which is in fluid communication with at least said first opening of said conduit, wherein said solder material introduced in said solder conduit is not introduced into said chamber, said pressurized gas flowing to said solder conduit and causing said solder material to be ejected from said second opening of said solder conduit; and

depositing said solder material on a plurality of connection sites on a receiving element.

50. (Previously Presented) The method of claim 49, wherein said solder material has a diameter of about 10 microns or less as deposited on said connection site on said receiving element.

51. (Previously Presented) The method of claim 50, wherein said print head is passed over said receiving element more than once such that said solder material has a diameter greater than 10 microns on said connection sites on said receiving element.

52. (Previously Presented) The method of claim 49, wherein said print head moves with respect to said receiving element to deposit said solder material at the plurality of connection sites on said receiving element.

53. (Currently Amended) A method of depositing solder material, said method comprising the steps of:

introducing a first solder component into a first solder conduit of a print head, wherein said first solder conduit has at least first and second openings;

introducing at least a second solder component into a second solder conduit of said print head, wherein said second solder conduit has at least first and second openings;

providing a gas source; and

pressurizing [[a]] gas from said source in at least first and second chambers of said print head which are in fluid communication with said first openings of said first and second solder conduits, respectively, wherein said first and second solder components introduced in said first and second solder conduits, respectively, are not introduced into said first and second chambers, said pressurized gas flowing to said first and second solder conduits and causing said first and second solder components to be ejected from said second openings of said first and second solder conduits, thereby respectively depositing said first and second solder components on at least a first and a second connection site on a receiving element.

54. (Previously Presented) The method of claim 53, wherein said print head moves with respect to said receiving element to deposit said second solder component on said first connection site.

55. (Previously Presented) The method of claim 54, wherein said first and second solder components mix at said first connection site to form a solder material.

56. (Previously Presented) The method of claim 53, wherein said first and second solder components are solder materials.

57. (Previously Presented) The method of claim 53, wherein said solder components have a diameter of about 10 microns or less on said connection sites on said receiving element.

58. (Previously Presented) The method of claim 57, wherein said print head is passed over said receiving element more than once such that a diameter of said first and second solder components is greater than 10 microns on said connection sites on said receiving element.

59. (Currently Amended) A method of depositing solder material, said method comprising the steps of:

introducing a first solder component into a first solder conduit of a first print head, wherein said first solder conduit has at least first and second openings;

introducing at least a second solder component into at least a second solder conduit of a second print head, wherein said second solder conduit has at least first and second openings;

providing a gas source;

pressurizing [[a]] gas from said source in a first chamber of said first print head which is in fluid communication with said first opening of said first solder conduit, wherein said first solder component introduced in said first solder conduit is not

introduced into said first chamber, said pressurized gas flowing to said first solder conduit and causing said first solder component to be ejected from said second opening of said first solder conduit, deposit said first solder component on a connection site on a receiving element; and

pressurizing [[a]] gas from said source in at least a second chamber of said second print head which is in fluid communication with said first opening of said second solder conduit, wherein said second solder component introduced in said second solder conduit is not introduced into said second chamber, said pressurized gas flowing to said second solder conduit and causing said second solder component to be ejected from said second opening of said second solder conduit, to deposit said second solder component on said connection site on said receiving element.

60. (Previously Presented) The method of claim 59, wherein said first and second print heads move with respect to said receiving element, depositing said solder components onto a plurality of connection sites on said receiving element.

61. (Previously Presented) The method of claim 60, wherein said first print head passes over said connection sites and deposits said first solder component before said second print head passes over said connection sites and deposits said second solder component.

62. (Previously Presented) The method of claim 61, wherein said first and second solder components mix at said connection sites to form a solder material.

63. (Previously Presented) The method of claim 60, wherein said first and second solder components are simultaneously deposited at different connection sites on said receiving element.

64. (Previously Presented) The method of claim 59, wherein said first and second solder components are solder materials.

65. (Previously Presented) The method of claim 59, wherein said solder components have a diameter of about 10 microns or less on said connection site on said receiving element.

66. (Currently Amended) A method of depositing solder material, said method comprising the steps of:

introducing a solder component into a plurality of solder conduits of a print head, wherein said solder conduits have at least first and second openings;

providing a gas source; and

pressurizing [[a]] gas from said source in a plurality of chambers of said print head which are in fluid communication with said first openings of said conduits,

wherein said solder component introduced in said solder conduits is not introduced into said chambers, said pressurized gas flowing to said solder conduits and causing said solder component to be ejected from said second openings to deposit said solder component on a plurality of connection sites on a receiving element.

67. (Previously Presented) The method of claim 66, wherein the diameter of said deposited solder components on said connection sites is about 10 microns or less.

68. (Previously Presented) The method of claim 66, wherein a pitch between two adjacent ones of said plurality of connection sites on which said solder component is deposited is less than about 25 microns.

69. (Previously Presented) The method of claim 66, wherein said print head moves with respect to said receiving element to deposit said solder component to another plurality of connection sites on said receiving element.

70. (Previously Presented) The method of claim 66, further comprising: passing at least a second print head having a second plurality of solder conduits over said receiving element;

introducing at least a second solder component into said second plurality of solder conduits of said second print head, wherein said second solder conduits have at least first and second openings; and

pressurizing gas in a plurality of chambers of said second print head which are in fluid communication of at least said first openings of said conduits, wherein said second solder component introduced in said second solder conduits is not introduced into said chambers, said pressurized gas flowing to said second solder conduits and causing said second solder component to be ejected from said second openings of said second solder conduits, thereby depositing said second solder component on each of said connection sites on said receiving element.

71. (Previously Presented) The method of claim 70, wherein said first and second solder components mix at said connection sites to form a solder material.